



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,492	02/13/2001	Magdy S. Abadir	SC11403TS	9497

7590 09/24/2003

Motorola, Inc.,
Austin Intellectual Property Law Section
7700 West Parmer Lane, MD: TX32/PL02
Austin, TX 78729

EXAMINER

THOMPSON, ANNETTE M

ART UNIT PAPER NUMBER

2825

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,492

Applicant(s)

ABADIR ET AL.

Examiner

A. M. Thompson

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-15, 17-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 18 is/are allowed.
- 6) ☒ Claim(s) 8-10, 12-15, 17, 19-22 and 24-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' Response to Office Action has been examined. The specification is amended. Claims 16 and 23 are cancelled. Claims 9, 11, 13, 17, 18, 21, 22, 24-29 and 31 is amended. Claims 8-15, 17-22, and 24-31 are pending.

1. Applicants' Response is persuasive-in-part. The pertinent rejections and objections from the prior office action are incorporated herein.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Rejection of claims 8-10, 12-15, 17, 19-22 and 24-31

3. **Claims 8-10, 12-15, 17, 19-22 and 24-31** are rejected under 35 U.S.C. 102(a) as being anticipated by the Bhadra et al. paper (the Bhadra paper) entitled A Quick and Inexpensive Method to Identify False Critical Paths Using ATPG Techniques: An Experiment with a PowerPC Microprocessor.

4. Pursuant to claim 8, which recites [a] method for identifying false paths comprising providing a path corresponding to a circuit design (page 72, § 2, col. 1, ¶ 1); determining whether a set of final value conditions are satisfied (page 72, § 2); determining whether a set of side value propagation conditions are satisfied (page 73, § 2); determining whether a set of initial value conditions are satisfied (page 72, § 2); determining whether the path is false based on at least one of the set of final value

conditions (pages 72-73, § 2) , the set of side value propagation conditions (page 73, § 2) , and the set of initial value conditions (§ 2).

5. Pursuant to claim 9, further comprising determining whether a set of slower conditions are satisfied, and wherein determining whether the path is false is based on at least one of the set of final value conditions, the set of side value propagation conditions, the set of initial value conditions, and the set of slower path conditions (§ 2 in entirety).

6. Pursuant to claim 10, wherein the set of final value conditions and the set of side value propagation conditions correspond to a first time frame and the set of initial value conditions corresponds to a second time frame different from the first time frame (§ 2).

7. Pursuant to claim 12, wherein determining the conditions are performed by by an ATPG tool (§ 2 includes the use of an ATPG tool.)

8. Pursuant to claim 13, which recites [a] method for false path identification within a circuit design (Abstract; § 3) comprising receiving a first set of paths corresponding to the circuit design (§ 3; Figure 2); providing a set of conditions corresponding to at least one path of the first set of paths to an automatic test pattern generation tool (§ 3; Figure 2) , the ATPG tool having an ATPG model corresponding to at least a portion of the circuit design (§ 3); the ATPG tool generating a response to the set of conditions using the ATPG model (§ 3, the log file); and identifying a false path within the first set of path based on the response from the ATPG tool (§ 3).

9. Pursuant to claim 14, further comprising translating the first set of paths (§ 3, the batch files).

Art Unit: 2825

10. Pursuant to claim 15, further comprising after receiving the first set of paths, extracting a second set of paths from the first set of paths (§ 3, the set of critical paths that are output from STEP), wherein the set of conditions corresponds to at least one path of the second set of paths (§ 3, the specification of the particular transition along each path).

11. Pursuant to claim 17, wherein the response to the set of conditions from the ATPG tool indicates whether the set of conditions is satisfied (§ 2).

12. Pursuant to claim 19, wherein the ATPG tool is a commercially available ATPG tool (see Abstract).

13. Pursuant to claim 20, wherein receiving the first set of paths comprises receiving the first set of paths from a static analysis tool (§ 3).

14. Pursuant to claims 21, 22, 24, 25, 26, 27, 28, 30 and 31, these claim include limitations already rejected in claims 8, 9, 13, 14, 15, 16, 17, 19 and 20, respectively, supra, and therefore claims 21, 22, 24, 25, 26, 27, 28, 30 and 31 are likewise rejected based on the same reasoning.

15. Pursuant to claim 29, the Bhadra paper teaches this limitation at page 74, § 5, column 2, ¶ 1.

Allowable Subject Matter

16. **Claims 11 and 18** are allowed.

Remarks

17. Applicants' remarks are insufficient to overcome the 35 U.S.C. 102 (a) rejections. Timely submission of an affidavit under the applicable code section was required to

obviate the rejections. Examiner notes and disregards Applicants' arguments with respect to 35 U.S.C. 102 (b), because Examiner has not made any rejection under this code section.

Conclusion

18. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to A.M. Thompson whose telephone number is (703) 305-7441. The Examiner can usually be reached Monday thru Friday from 8:00 a.m. to 5:00 p.m.. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew S. Smith, can be reached on (703) 308-1323.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956 or the Customer Service Center whose telephone number is (703)306-3329.

20. Responses to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9318, (for **OFFICIAL** communications intended for entry)
(703)872-9319, (for Official **AFTER-FINAL** communications)

Hand-delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).



A. M. THOMPSON
Patent Examiner

22 September 2003